

MFA WEBINAR

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# WHY BRAIN HEALTH PROGRAMS ARE AN ABSOLUTE ESSENTIAL

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**DATE**

Thursday  
October 12



**TIME**

3-4 PM ET



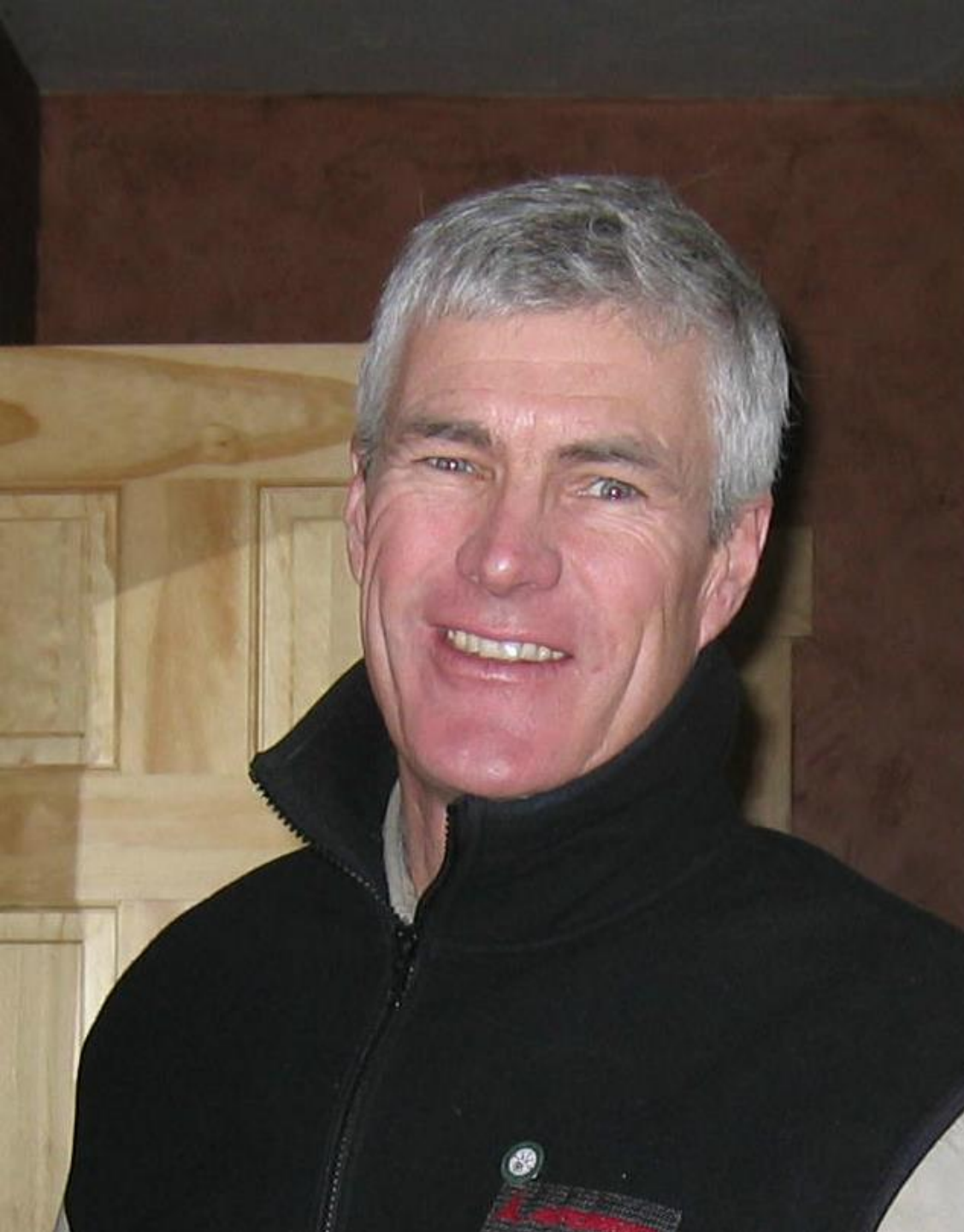
**RYAN GLATT, MS, CPT, NBC-HWC**

Senior Brain Health Coach & FitBrain Director at  
the Pacific Neuroscience Institute Foundation



**RICH COOK**

Director of Development at the  
Davis Phinney Foundation



# Rich Cook

Director of Development



- Founded in 2004 by Olympian Davis Phinney, the Davis Phinney Foundation is dedicated to helping people live well today with Parkinson's, through inspiration, education, research, and community programs.
- Today, the Foundation is widely recognized as a global leader in Parkinson's wellness, reaching over 3 million people each year.



# Ryan Glatt, MSc, CPT, NBHWC

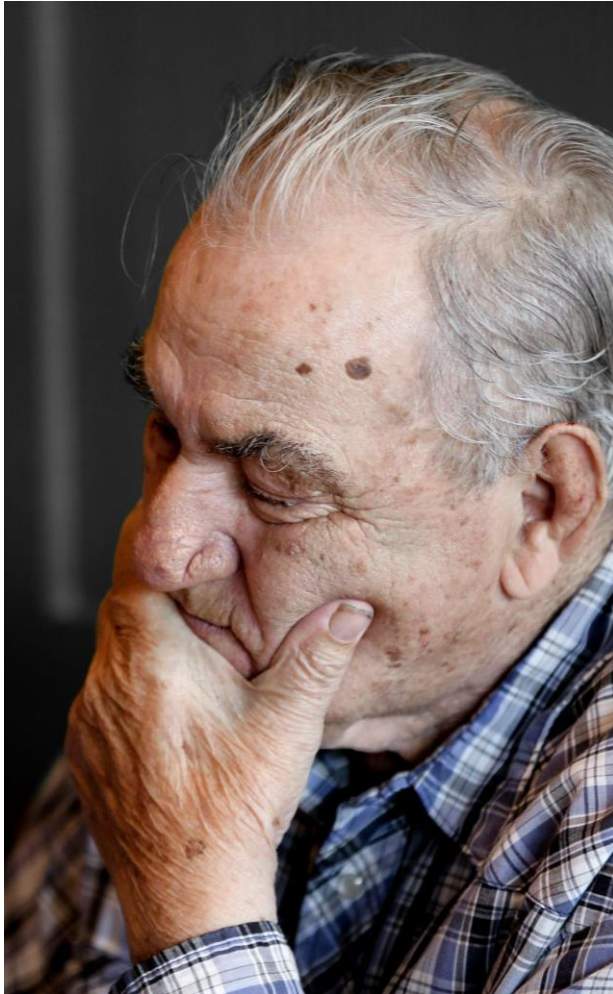
@glatt.brainhealth

- **Pacific Brain Health Center**  
Research, Education, FitBrain Program
- **MSc Applied Neuroscience**
- **PhD Student: Health & Human Performance**  
Focus in Gerontology
- **BS Exercise Science**
- **Brain Health Coach**
- **NSCA - CPT**

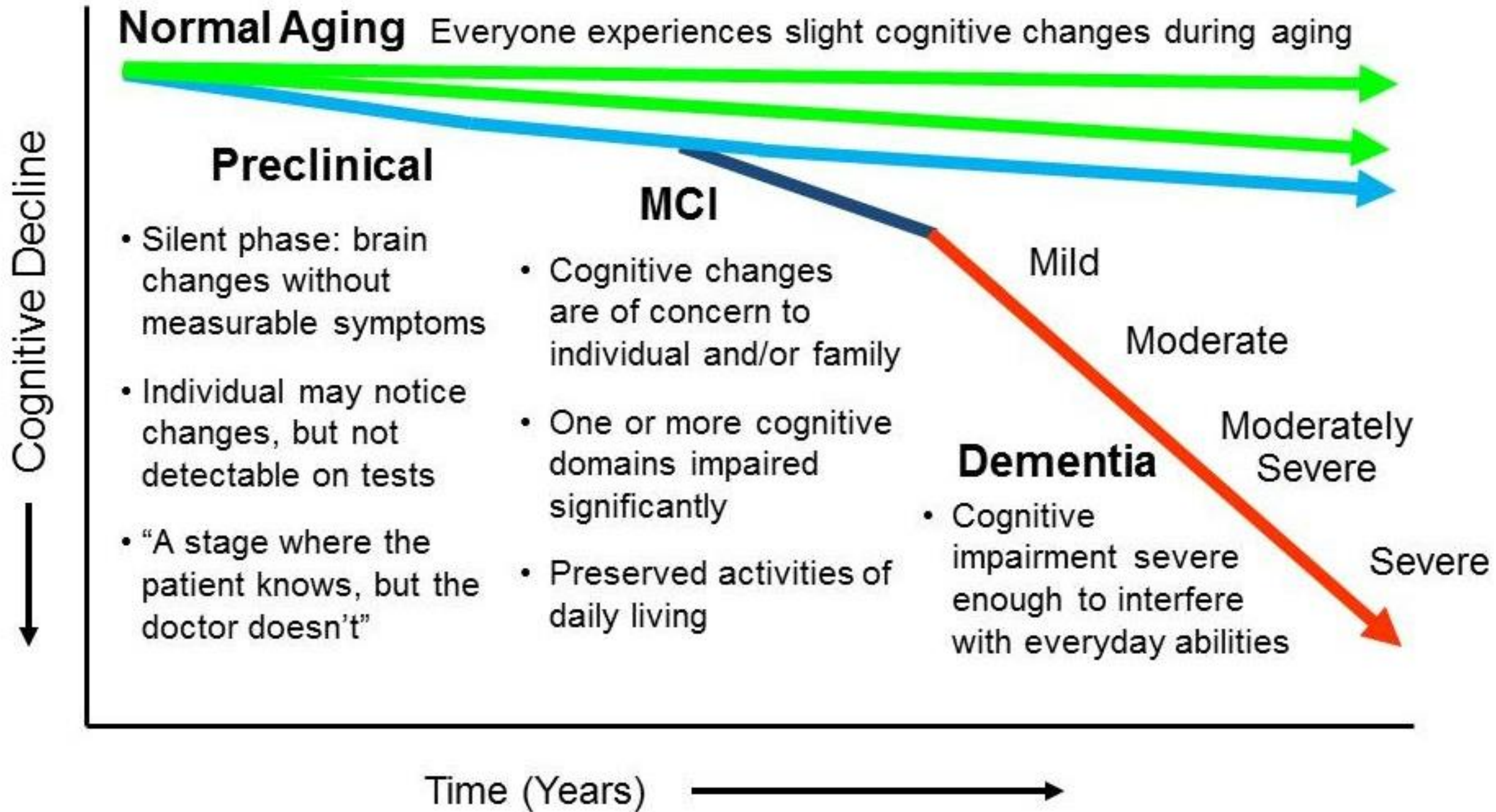
# The Global Issue of Brain Health

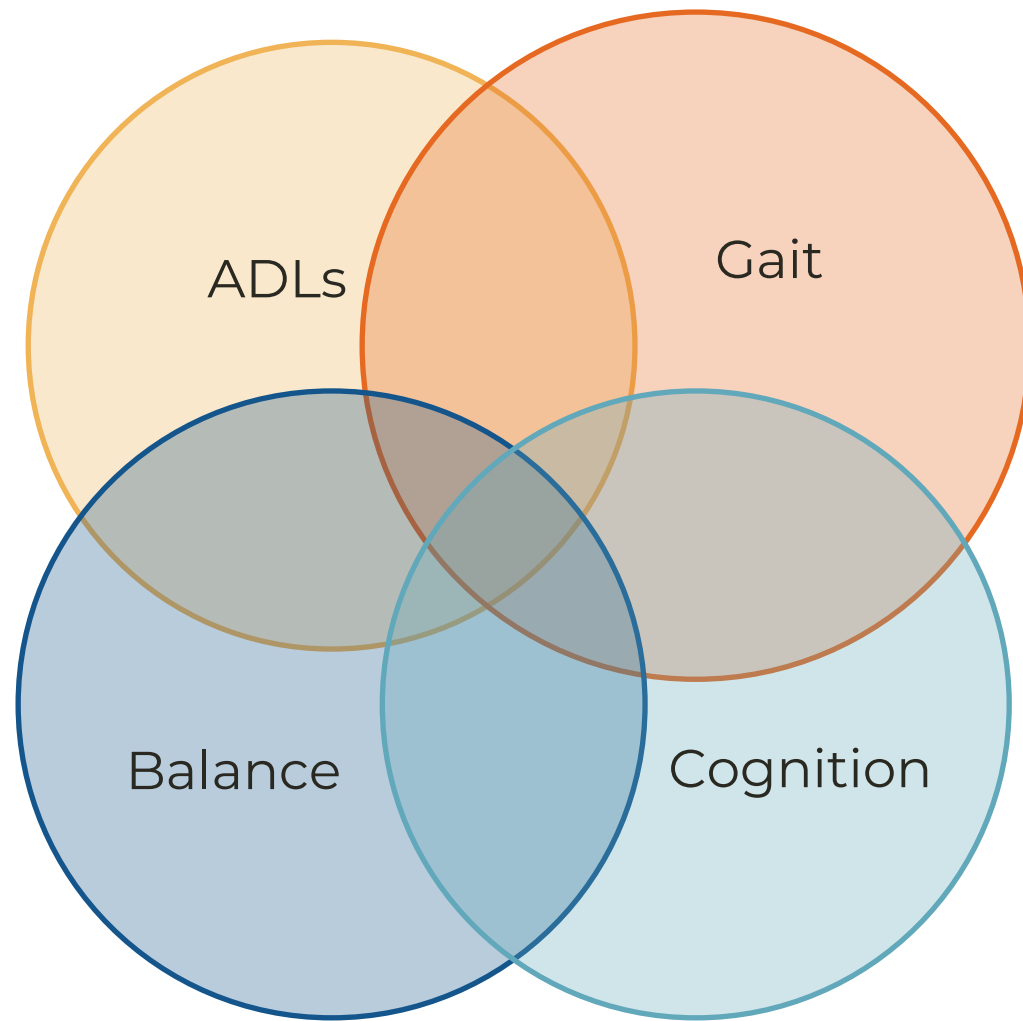
# Epidemic: Cognitive Impairment

Statistics Courtesy of Alzheimer's Association - 2020 Statistics



- An estimated **5.8 million Americans** (age 65 and older) are living with Alzheimer's dementia in 2020. **80% are age 75** or older. **2/3 are women.**
- By **2050**, the number of people age 65 and older with Alzheimer's dementia may grow to a projected **13.8 million**
- Alzheimer's disease is the **sixth-leading cause of death** in the United States. It is the **fifth-leading cause of death** among those age 65 and older and is also a **leading cause of disability and poor health.**
- Unless a treatment to slow, stop or prevent the disease is developed, **in 2050**, Alzheimer's is projected to **cost more than \$1.1 trillion**

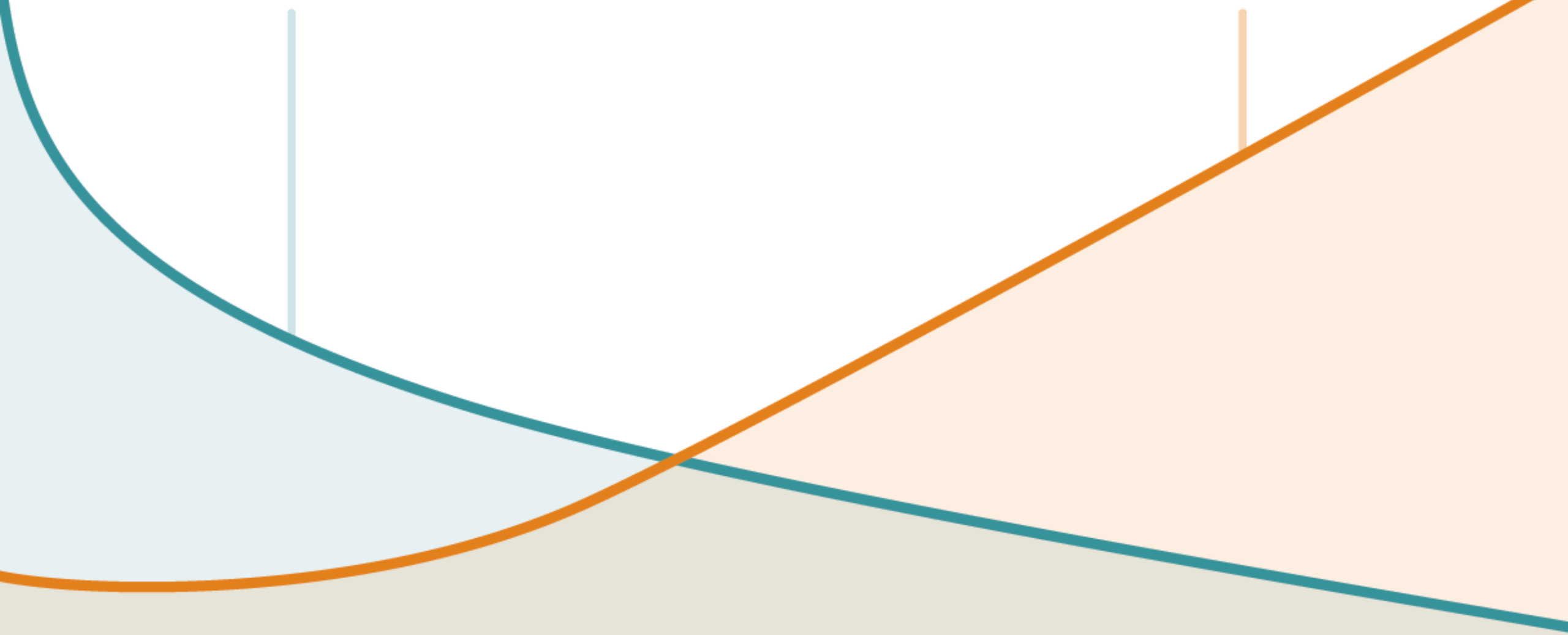




Shared Abilities in Neurologic Conditions

The brain's **ability to change**  
in response to experiences

The **amount of effort**  
such change requires





# Lifestyle, Exercise & Brain Health

# lifestyle factors that influence brain health & cognition



exercise & physical activity



sleep



diet



stress management



medications



comorbidities



cognitive stimulation



social support

# Current Interventions for Management of MCI



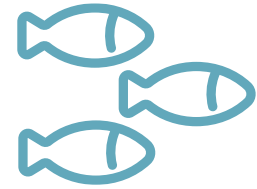
## Exercise

150-300 min/week



## Mood

Stress, Social Engagement



## Nutrition

MIND Diet



## Cognitive Training



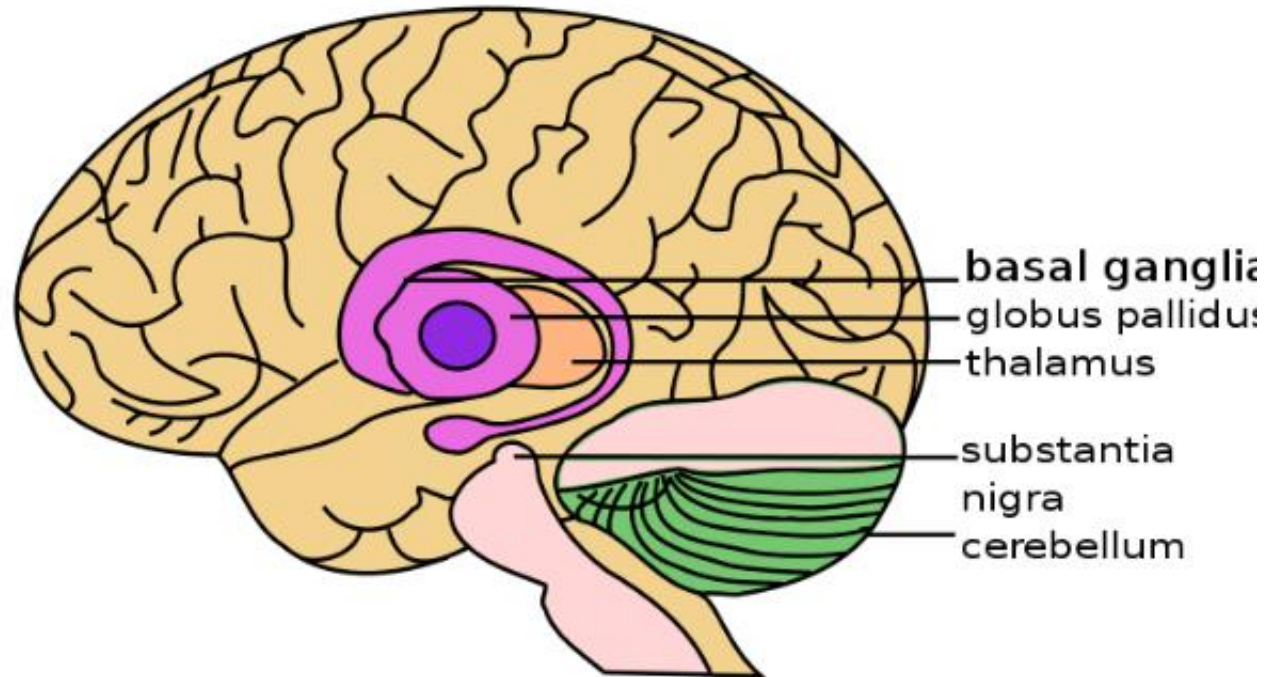
## Sleep Hygiene

Treat apnea



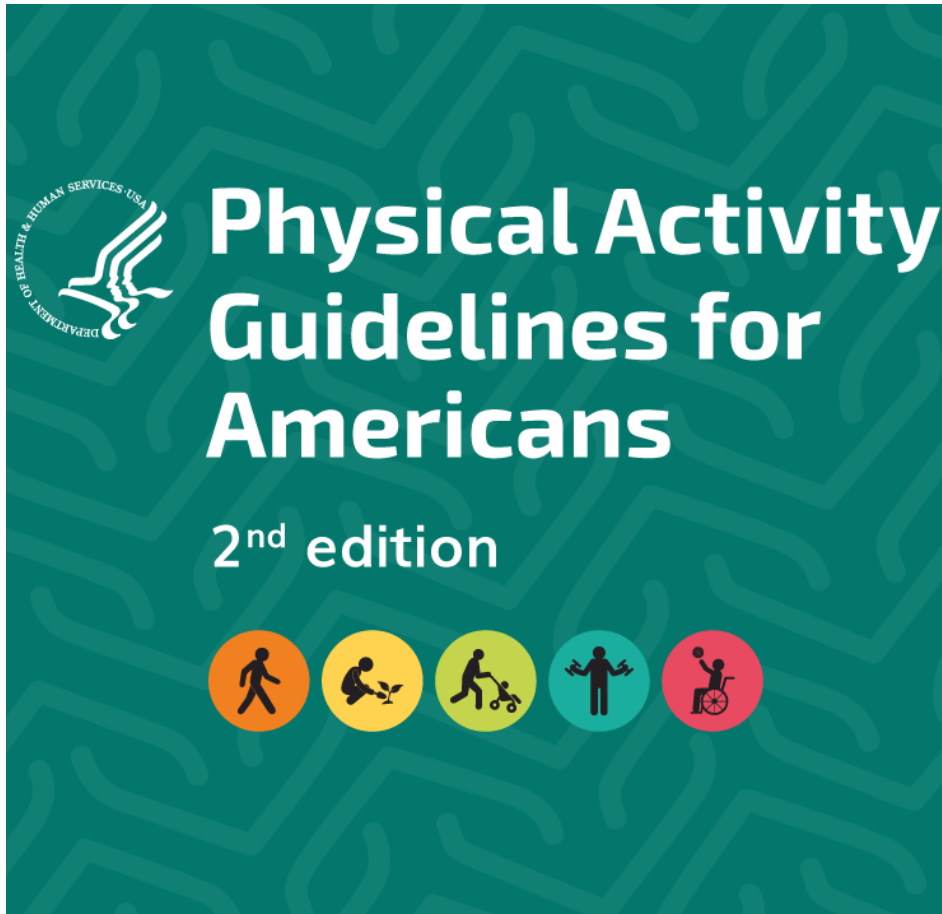
## Medication Management

# motor fitness effects



- improves cerebellar + basal ganglia size and structure
- specialized skill-based pathways that mediate cognitive improvements
- Sports, dance, martial arts  
From Ping Pong to Tai Chi!
- Cognitive-motor dual-tasking

is the general recommendation  
enough for brain health?



- “For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) week of moderate to vigorous intensity aerobic exercise ...or equivalent”
- Additional benefits for “neuromotor” training, strength training, and more minutes (i.e. 300)
- Multidomain exercise programs slow progression of cognitive decline more than shorter single modality
- 52 hours of exercise leads to improvements in EF's & processing speed in older adults - regardless of modality

# Examples of PD-Specific Programs

- Rocksteady Boxing
- Ping Pong for Good
- Pedal for Parkinson's
- Exergaming
- Dual-Tasking
- Parkinson's Wellness Regeneration (PWR)

“Open Skill Exercise is more effective for improving some aspects of cognitive function compared with Closed Skill Exercise.”

Gu, Q., Zou, L., Loprinzi, P. D., Quan, M., & Huang, T. (2019). Effects of open versus closed skill exercise on cognitive function: A systematic review. *Frontiers in psychology*, 10, 1707.

# Open



# Closed

Exercise is constantly changing

Movements have to be continually adapted

Predominately externally paced

Stable & predictable environment

Movements have a clear beginning & end

Performer knows what to do & when



# Dual task definition

- To train individuals to be able to perform two tasks simultaneously, one primary and other secondary, that can be:
  - performed independently
  - measured separately
  - have distinct goals.
- Dual-tasking is present in
  - Sports
  - Dance
  - Martial Arts
  - Mind-body activities
  - Exergaming
  - Dual-task training





# Research on Exergaming

- Can improve physical functioning
- Can improve cognitive functioning
- Can improve mood
- Can increase exercise adherence/motivation
- Has been studied in older adults, clinical populations
- Research suggests 60 min/week for 12 weeks leads to significant benefits in executive function & balance



## Approaches for Living Well with Parkinson's

# Parkinson's is...

The fastest growing and 2<sup>nd</sup> most prevalent neurodegenerative disease (to Alzheimer's) with over 1,000,000 affected in the U.S.

There is no known cure and the number living with Parkinson's is projected to double by 2040.



# Parkinson's Outcomes

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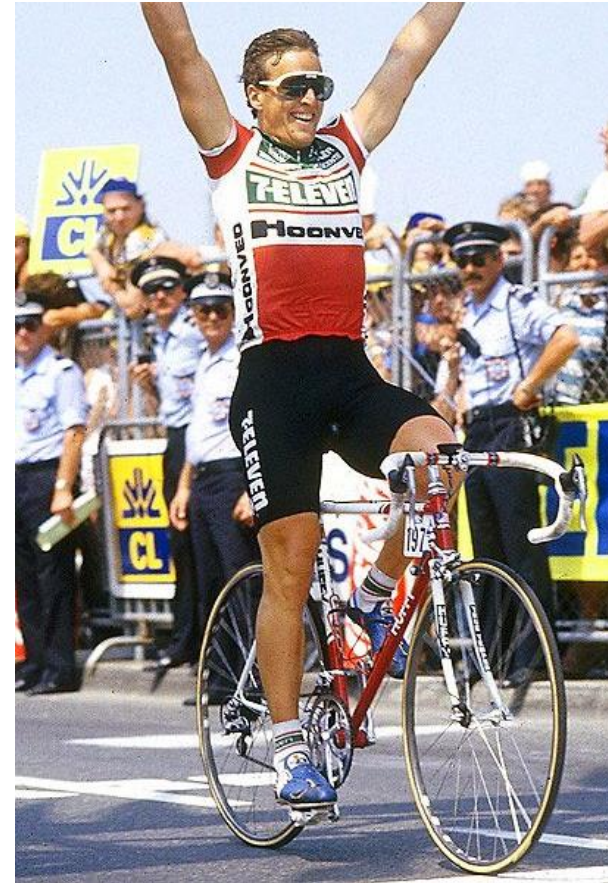
## What we know

- Regular neurologist care can save the lives of thousands of people each year.
- People with Parkinson's who receive different medicines and treatment plans, depending on where they receive care, show vastly different results.
- Increasing physical activity to at least 2.5 hours a week can slow decline in quality of life.
- Interventions providing neuroprotective benefits, such as exercise, could change the course of the disease.
- Depression and anxiety are the number one factors impacting the overall health of people with Parkinson's.
- Caregiving plays an important role in the care people with Parkinson receive. Understanding how to best provide day-to-day care will help improve the quality of life for those with Parkinson's.

# Lifestyle Approach

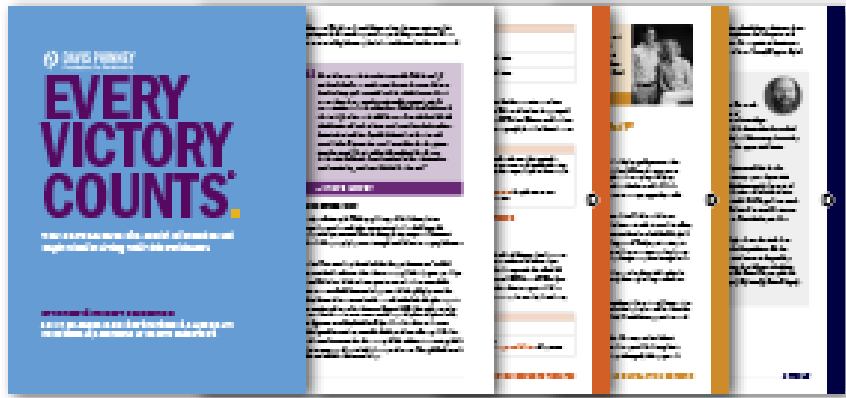
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- Physically Active
- Mentally Active
- Socially Active
- Multi-disciplinary care team
  - Neurologist, MDS
  - Physical Therapist
  - Exercise Pro or Trainer
  - Care Partners



# Resources for Living Well

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## LIVING WITH PARKINSON'S

Everything you've ever wanted to know about Parkinson's but were afraid to ask

## The PARKINSON'S PODCAST™

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# Resources for Living Well

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# Pedaling For Parkinson's is...



A clinically validated program and spin curricula, developed with The Cleveland Clinic, owned and managed by the Davis Phinney Foundation., Pedaling for Parkinson's has over 175 classes nationwide



Riding an indoor, stationary bicycle has been shown to reduce Parkinson's motor symptoms by as much as 35%. And it's something almost anyone with Parkinson's can do.



**Instructor and facility certification opens January 2024**







Pedaling for Parkinson's™ participants ride indoor, stationary bikes for 1 hour, starting with a 10-minute warm up followed by 40 minutes at 80 to 90 RPM with resistance, and a 10-minute cool down. Classes are available online and live at YMCA's and other facilities across the country.



# Quality of Life Research

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- COMMUNITY-BASED CYCLING CLASS FOR SLOWING PARKINSON'S PROGRESSION, Dr. Jay Alberts. The Cleveland Clinic
- BRAIN TRAINING: EFFECTS OF AEROBIC EXERCISE IN PARKINSON'S DISEASE
- FEASIBILITY OF LOW-LOAD RESISTANCE TRAINING WITH BLOOD FLOW RESTRICTION IN PEOPLE WITH ADVANCED DISABILITY DUE TO PARKINSON'S, Dr. Mark Magano, CU Anschutz
- EXERCISE IN ADVANCED PARKINSON'S DISEASE (PD) WITH DEEP BRAIN STIMULATION (DBS), Sana Aslam, DO. Barrow Neurological Institute
- TAI CHI FOR ENHANCING COGNITIVE-MOTOR INTERACTIONS, Dr. Peter Wayne, Harvard Medical School
- PARKINSON'S SLOW-SPEED STUDY, Bas Bloem, Radboud University Medical Center, The Netherlands, Harvard T.H. Chan School of Public Health



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## Rich Cook


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**TEAM DPF**  
*every victory counts.*



**DAVIS PHINNEY**  
Foundation For Parkinson's  
*every victory counts®*

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